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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,795	03/26/2004	Masaki Mizuochi	520.43873X00	7148

20457 7590 02/20/2007
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

ARANCIBIA, MAUREEN GRAMAGLIA

ART UNIT	PAPER NUMBER
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1763

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/809,795

Applicant(s)

MIZUOCHI ET AL.

Examiner

Maureen G. Arancibia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-6,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,959,732 to Hara et al. ('732 to Hara et al.).**

In regards to Claim 4, '732 to Hara et al. teaches a sample-setting moving stage (Figure 2), comprising: a table 11S on which a sample W is set; a first guide 11X and a second guide 11Y that guide the movement of the table in the X-axis direction and Y-axis direction in a plane, respectively (Column 10, Line 65 - Column 11, Line 2); a temperature sensor installed near the sample-setting portion of the table, as broadly recited in the claim (*a temperature sensor for measuring the fluid temperature may be provided near the inlet of each of the stationary members 16A to 19A*); the table is capable of being positioned near any of these temperature sensors; Figure 2; Column 12, Lines 54-57); and a gas-lubrication type third guide that guides the table in the X-axis and Y-axis directions in the plane, as broadly recited in the claim (i.e. the table is being guided by the third guide whether the table is in the process of being moved in the X-axis direction or the Y-axis direction), the third guide consisting of a moving side guide member 16B and a fixed side guide member 16A, equipped with a means (gas bearing members 20A, 20B, 20C; Column 12, Line 62 - Column 13, Line 9) for sliding

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the moving side guide member and fixed side guide member with the aid of gas lubrication, and guiding the movement of the table by means of the relative movement of the two side guide members (the table is guided, i.e. positioned, by the two side guide members even when moving in the Y-axis direction; Column 11, Lines 19-54), as broadly recited in the claims. A flow path of a heat-exchanging medium is provided through the inside of the fixed side guide member 16A of the third guide (Figure 2; Column 11, Lines 45-54), and a temperature adjuster 6A adjusts the temperature the heat-exchanging medium (Column 11, Lines 55-56).

The recitation in Claim 4 that the sample is set under vacuum or reduced pressure atmosphere is considered as a recitation of intended use of the claimed sample-setting moving stage. The sample-setting moving stage taught by '732 to Hara et al. would be structurally capable of being installed in a vacuum chamber, in order to perform the intended use of having the sample under vacuum or reduced pressure atmosphere. Likewise, the flow path of the heat-exchanging medium through the inside of the fixed side guide member 16A would be capable of performing the intended use of cooling the sample-setting portion of the table via the first and second guide, due to thermal conduction between the components of the moving stage. It has been held that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

In regards to Claim 6, '732 to Hara et al. teaches a second temperature sensor 45A, installed in the heat transfer path from the temperature adjuster 6A to the sample-setting table, and multiple lines of flow path of the heat-exchanging medium 42X, 42Y (Figure 2), as broadly recited in the claim; wherein the temperature adjuster means adjusts the temperature of the medium, which flows in the multiple lines of flow path independently from each other (i.e. there are separate flow paths; Figure 2), as broadly recited in the claim, based on the information from the second temperature sensor and the first temperature sensor installed near the sample, as broadly recited in the claim. (Column 12, Lines 32-61; Column 13, Lines 14-59)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over '732 to Hara et al. in view of U.S. Patent 5,220,171 to Hara et al. ('171 to Hara et al.).**

The teachings of '732 to Hara et al. were discussed above.

'732 to Hara et al. does not expressly teach that the flow path of the heat-exchanging medium is so widely extended that the flow path is located just under the table and extends substantially over the entirety of the plane of the table movement.

'171 to Hara et al. teaches that the flow path of a heat-exchanging medium (conduits 41-47) should be extended just under the moving sample-setting table 1 and

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mounted to the bottom of table 1, and extends substantially over the entirety of the table

1. (Figure 1; Column 6, Line 59 - Column 7, Line 42)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by '732 to Hara et al. to have the flow path of the heat-exchanging medium be extended just under the moving sample-setting table and to be extended substantially over the entirety of the table itself, as broadly recited in the claim and taught by '171 to Hara et al., and mounted to the bottom of the table. The motivation for making such a modification, as taught by '171 to Hara et al. (Column 7, Lines 38-42), would have been to maintain the surface of the sample-setting table at a desired temperature.

In the combination of '732 to Hara et al. and '171 to Hara et al., the flow path of the heat-exchanging medium is formed just under the sample-setting table, as broadly recited in the claim, extended substantially over the entirety of the table, and mounted to the table, and would therefore, *by virtue of moving together with the table*, be located under the table anywhere in the plane of the table movement that the table is positioned.

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over '732 to Hara et al. in view of Applicant's Admitted Prior Art (AAPA).

The teachings of '732 to Hara et al. were discussed above.

In regards to Claim 9, '732 to Hara et al. does not expressly teach that the sample-setting moving stage is part of a manufacturing apparatus for circuit pattern, on

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which a circuit pattern is formed on a sample by irradiation with charged particle ray, X-ray, or EUV.

AAPA teaches a manufacturing apparatus for circuit pattern, on which a circuit pattern is formed on a sample by irradiation with charged particle ray, X-ray, or EUV, equipped with a sample-setting moving table. (Specification, Page 1, Line 22 - Page 2, Line 24)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by '732 to Hara et al. to install the sample-setting moving stage in a manufacturing apparatus for circuit pattern, on which a circuit pattern is formed on a sample by irradiation with charged particle ray, X-ray, or EUV, as taught by AAPA. The motivation for doing so, as taught by AAPA (Specification, Page 1, Line 22 - Page 2, Line 24), would have been to use the sample-setting moving stage to perform the necessary accurate positioning of the sample in such an apparatus.

In regards to Claim 10, '732 to Hara et al. does not expressly teach that the sample-setting moving stage is part of an inspection apparatus for circuit pattern, on which charged particle ray is radiated onto a sample with circuit pattern so as to inspect the circuit pattern.

AAPA teaches an inspection apparatus for circuit pattern, on which charged particle ray is radiated onto a sample with circuit pattern so as to inspect the circuit pattern, equipped with a sample-setting moving table. (Specification, Page 1, Line 22 - Page 2, Line 24)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by '732 to Hara et al. to install the sample-setting moving stage in an inspection apparatus for circuit pattern, on which charged particle ray is radiated onto a sample with circuit pattern so as to inspect the circuit pattern, as taught by AAPA. The motivation for doing so, as taught by AAPA (Specification, Page 1, Line 22 - Page 2, Line 24), would have been to use the sample-setting moving stage to perform the necessary accurate positioning of the sample in such an apparatus.

Response to Arguments

6. Applicant's arguments filed 13 November 2006 have been fully considered but they are not persuasive.

Specifically, in regards to Applicant's argument that the Examiner has mischaracterized the teachings of '732 to Hara et al. in relation to the features of Claim 4, the Examiner must disagree. The Examiner maintains that the components 11X, 11Y meet the limitation *as broadly recited in Claim 4* of a first guide and a second guide that guide the movement of the table in the X-axis and Y-axis direction in a plane, respectively, since components 11X, 11Y underlie and support the table 11S, and thereby guide the movement of the table 11S as they are driven in the direction X and the direction Y, respectively, *as broadly recited in the claim*. (Column 10, Line 65 - Column 11, Line 2) The Examiner maintains that components 16B, which is a moving side guide member, and 16A, which is a fixed side guide member, may be considered to comprise a third guide that guides the table in the X-axis and Y-axis directions, since the movement of the table 11S is guided by the third guide whether the table is in the

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process of being moved in the X-axis direction or the Y-axis direction, *as broadly recited in the claim*. Moreover, the Examiner maintains that this third guide, comprised of side guide members 16A, 16B, is a gas-lubrication type guide, *as broadly recited in the claim*, since the guide is equipped with gas bearing members 20A, 20B, 20C for sliding the moving side guide member and fixed side guide member with the aid of gas lubrication (Column 12, Line 62 - Column 13, Line 9). The Examiner maintains that '732 to Harada et al. teaches a temperature sensor installed near the sample-setting portion of the table, *as broadly recited in the claim*, since '732 to Harada et al. teaches that a temperature sensor for measuring the fluid temperature may be provided near the inlet of each of the stationary members 16A to 19A, and the table 11S is structurally capable of being positioned near any of these temperature sensors. (Figure 2; Column 12, Lines 54-57) '732 to Harada et al. further teaches that a flow path of a heat-exchanging medium is provided through the inside of the fixed side guide member 16A, which is part of the third guide, as discussed above. (Figure 2; Column 11, Lines 45-54) This flow path of the heat-exchanging medium is structurally capable of performing the intended use of enabling *indirect* cooling of the sample-setting portion of the table via the first and second guide, as broadly recited in the claim, due to thermal conduction between the components of the moving stage. (It is noted that the teachings of '732 to Harada et al. are relied on to teach this limitation of Claim 4.)

The Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in

order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

7. Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Maureen G. Arancibia
Patent Examiner
Art Unit 1763



Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763